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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,980	06/15/2006	Xianli Hu	060601	8810

46064 7590 07/07/2009

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ART UNIT	**PAPER NUMBER**
2419	

MAIL DATE	DELIVERY MODE
07/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,980	HU ET AL.	
	Examiner	Art Unit	
	KHALID ABDALLA	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *1-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-33* is/are rejected.

7)☒ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/15/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to under 37 CFR 1.75(c) because of the following informalities: Regarding claims 1, the term "...a route service device..." in line 10 seems to refer back to "... a route service device ...".in claim1, lines 8 .If this is true it's suggested to change " ... a route service device ..." to " ----- the route service device ----". Similar correction needs to be done to claim1 line 16.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 17-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pershan (US 6865266 B1) in view of Elliott et al (US 20040022237 A1).

Regarding claim17Pershan disclose a method for implementing call routing by route service devices, to be used in a next generation network using soft switching to assert core control (Fig. 1 shows soft switch 130) , comprising the following steps of:

(a) upon a user route change, a soft switching control device reports a change route information (Soft switches 130, 152 provide calling and called information to the servers, then the servers determine routing and move the call to its ultimate destination, e.g., they determine the routing instructions for called numbers see coln:10 lines 16-19)

to a route service device at a father node (server 132 of fig.1), the changed route information includes user characteristics information, user node information and type of route operation (Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 see coln:9 lines 1-2 and coln:10 lines 1-6)

(d) the route service device that received broadcasting follows a same method as the route service device that received report of the change route information to register and broadcast the received route information (step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342

The server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to. See coln:16 lines 21-33)

(e) when calling across domains, a soft switch control device which the calling belongs to initiates an inquiry to the route service device at the father node (In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from

the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, who may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

(f) a route service device upon receiving inquiry request searches route information of a user from the route information database (the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200 see coln:19 lines 63-67 and coln :20 lines 1-4) also (The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (Lens). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57)

if the user route is obtained or a result indicates the user does not exist, execute step (h), otherwise, execute step (g) ;

(g) the route service device continue to make inquiry of the route record to the local node, if

there is no route record, continue to make inquiry to the father node, and return to step (f) (the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33)

; and

(h) returning an inquiry result to the local node that initiated the inquiry, any local node that receives the inquiry result continue to return the inquiry result to the local node that made the inquiry, until returning to the soft switch control device which first made the inquiry. (In step 612, the media/proxy server sends the routing information back to the soft switch 130 informing it to route the call to a local Signal Transfer Point (STP) 150 for SS7 routing. The soft switch 130 receives the instructions in step 614 and, in step 616, contacts its local media/proxy server 132 which has SS-7 connectivity. Next, in step 618, the media/proxy server 132 uses SS7 messaging to contact the local PSTN STP 150. In step 620, the STP 150 verifies that the requested call can be completed, e.g., the STP 150 checks to see if the called line is busy or if a no answer condition exists. If either of these conditions is detected by the STP 150, the STP 150 will inform the media/proxy server 132, and the calling party would hear a busy signal or a no answer condition indication under the direction of server 132 or softswitch 130 see con:20 lines 10-25).

Pershan does not disclose

(b) a route service device that received report of the change route information, searches a route information database for a record still pending registration of a user, and registers a route record of the user to the route information database according to the reported change route information and content of the record of the user

(c) for a route service device that has completed registration, when route information of the user reflects a change between a local node and a father node, the route information reflecting the change is broadcasted to the father node .

Elliott et al from the same or similar endeavor teach ;

(b) a route service device that received report of the change route information, searches a route information database for a record still pending registration of a user, and register a route record of the user to the route information database according to the reported change route information and content of the record of the user (Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208 see [0881])

(c) for a route service device that has completed registration, when a route information of the user reflects a change between a local node and a father node, the route information reflecting the change is broadcasted to the father node (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch

command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882].

Thus it would have been obvious to one of ordinary skill in the art to implement the method of Elliott et al in the system of Pershan .The method of Pershan can be implemented on any type of method ;

b) a route service device that received report of the change route information, searches a route information database for a record still pending registration of a user, and register a route record of the user to the route information database according to the reported change route information and content of the record of the user

(c) for a route service device that has completed registration, when a route information of the user reflects a change between a local node and a father node, the route information reflecting the change is broadcasted to the father node . which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim18 Pershan disclose a method for implementing call routing, to be used in a next generation network using a soft switch control device as a core control device (Fig. 1 shows soft switch 130), comprising implementing call routing by route service devices, wherein implementing call routing by the route service devices comprises the following steps of:

(a) upon a user route change, the soft switch control device reporting a changed route information to a route service device at a father node, the changed route information including user characteristics information, user node information and route operation type (Soft switches

130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 see coln:9 lines 1-2 and coln:10 lines 1-6)

(d) a route service device that received the broadcasted route information registering and broadcasting the received broadcasted route information according to the same method as the route service device that received the reported changed route information (step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to. See coln: 16 lines 21-33)

(e) when calling across domains, the soft switch control device to which the calling belongs initiating an inquiry to the route service device at a father node; (In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call

billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

(f) the route service device that received a request of the inquiry looking up a route record of a user to be looked up from the route information database, (the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200 see coln:19 lines 63-67 and coln :20 lines 1-4)

if an inquiring result of the route of the user or an inquiring result indicates that the user does not exist is obtained, performing step (h), otherwise, performing step (g);

(g) the route service device continuing an inquiry to a node in the route record, if there is no route record, continuing an inquiry to its father node, and returning to step (f) ; (the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first

media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33) and.

(h) returning the inquiring result to the node that initiated the inquiry, any node that receives the inquiring result continuing to return the inquiring result, until returning to the soft switch control device which first initiated the inquiry (In step 612, the media/proxy server sends the routing information back to the soft switch 130 informing it to route the call to a local Signal Transfer Point (STP) 150 for SS7 routing. The soft switch 130 receives the instructions in step 614 and, in step 616, contacts its local media/proxy server 132 which has SS-7 connectivity. Next, in step 618, the media/proxy server 132 uses SS7 messaging to contact the local PSTN STP 150. In step 620, the STP 150 verifies that the requested call can be completed, e.g., the STP 150 checks to see if the called line is busy or if a no answer condition exists. If either of these conditions is detected by the STP 150, the STP 150 will inform the media/proxy server 132, and the calling party would hear a busy signal or a no answer condition indication under the direction of server 132 or softswitch 130 see con:20 lines 10-25).

Pershan does not disclose

b) the route service device that received the reported changed route information looking up a record of a user to be registered from a route information database, and registering a route record of the user to the route information database according to the reported changed route information and content of the record of the user;

(c) when a route information of the user reflects a change between a local node and a father node, the route service device that finished registration broadcasting the route information

reflecting the change to the father node;

Elliott et al from the same or similar endeavor teach ;

(b) the route service device that received the reported changed route information looking up a record of a user to be registered from a route information database, and registering a route record of the user to the route information database according to the reported changed route information and content of the record of the user (Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208 see [0881])

(c) when a route information of the user reflects a change between a local node and a father node, the route service device that finished registration broadcasting the route information reflecting the change to the father node (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882].

Thus it would have been obvious to one of ordinary skill in the art to implement the method of Elliott et al in the system of Pershan .The method of Pershan can be implemented on any type of method b) the route service device that received the reported changed route information looking

up a record of a user to be registered from a route information database, and registering a route record of the user to the route information database according to the reported changed route information and content of the record of the user;

(c) when a route information of the user reflects a change between a local node and a father node, the route service device that finished registration broadcasting the route information reflecting the change to the father node which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 19 note that Elliott teach the method, wherein when performing registration in step (b) (Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208 see [0881]), if the operation type of the reported changed route information corresponds to user moving in, when there is no route record of the user in the route information database (Table 145 below provides the Startup messages, the parameter tags, the parameter descriptions (associated with these messages) and the R/O status.

151TABLE 145 Startup (registration and de-registration) Parameter Parameter

Message Tag Description R/O NSUP - Notify Access 0x000000C0 Message Code R Server coming up 0x000000C1 Transaction ID R 0x00000001 Protocol version R implemented see [01550])

, establish a new record, when the record information of the user is different from the reported changed route information, update the record in conformity with preset condition (Data distributor 222 distributes customer database tables to SCP 214. Data distributor 222 also distributes route plan updates of configurations to SCP 214. Customer tables are updated through a database replication server see [1151] lines 3-6), otherwise, not perform the operation; if the operation type of the reported changed route information corresponds to user moving out, delete or update the route record of the user which has the same node information (The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls see [1162])

Regarding claim 20 note that Elliott et al teach The method, wherein the operation types have two kinds, which are addition and deletion; or have three kinds, which are addition, move-out and account-cancel (Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction

logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed see [0035]).
, and the user characteristics information includes information of specific domain (signaling messages for a call which either originates from an on-network calling party 122, or terminates to on-network called party 124, can be carried in-band over data network 112 or over a separate data network to soft switch sites 104, 106, rather than through signaling network 114 [0461]

Regarding claim 21 note that Pershan disclose the method, wherein the user node in the step (a) is a type of soft switch control device, or a type of route service device (fig.1 shows user node 132 for user 106)

Regarding claim22 note that Elliott et al teach The method, wherein in the step (c), when a route information of the user reflects a change between the local node and a designated brother node, the route service device that finished the registration also broadcasts the route information reflecting the change to the designated brother node (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882].

Regarding claim23 Pershan disclose the method, wherein the operation types have two kinds, which are addition and deletion, in the step (f), the route service device performing the inquiry makes judgment according to a looking up result in the route information database (the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57)

by following logic:

if the looking up result is that there is no record of user to be inquired, for a local node which is at the highest layer, obtaining the looking up result that there is no user, for a local node which is not at the highest layer, continuing an inquiry (the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33); and

also Elliott et al teach

if there is record of user to be inquired in the looking up result, when the user node in the route

record is a soft switch control device, obtaining the inquiring result of the route of the user; when the user node in the route record is not a soft switch control device, continuing an inquiry (In step 2208, the lookup returns subscription information. For example, the customer profile can require entry of an account code. In this example, the customer profile lookup can return an indication that the customer, i.e. calling party 102, has subscribed to an account code verification feature. A class of service restriction can also be enforced, but this will not be known until account code verification identifies an associated account code see [0494]). Regarding claim23 Pershan disclose the method, wherein the operation types have three kinds: addition, move-out and account-cancel, in the step (f), the route service device performing inquiry makes judgment according to the looking up result in the route information database (The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57)

by the following logic:

if the looking up result is that there is no record of user to be inquired, for a local node which is at the highest layer, obtaining a looking up result indicating that there is no user, for a local node which is not at the highest layer, continuing an inquiry(Pershan: the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch

152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33);

if the looking up result is that there is record of user to be inquired, identifying the operation type in the record:

when the operation type is addition, if the user node in the record is a type of soft switch control device (Pershan: fig.1 shows user node 132 for user 106), obtaining the looking up result of the route of the user; If the user node is a type of route service device, continuing an inquiry(Pershan: the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33);

when the operation type is move-out, if the local node is at the highest layer, obtaining a looking up result indicating that there is no user; if the local node is not at the highest layer, continuing an inquiry; and

Also note that Elliott et al teach when the operation type is account-cancel, obtaining a looking up result indicating that there is no user (Elliott et al : Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be

valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed see [0035]).

Regarding claim25 Pershan disclose a system for realizing the method to be used in a next generation network using a soft switch control device (Fig. 1 shows soft switch 130) as a core control device, comprising a plurality of soft switch (fig.1 shows plurality of soft switches152 ,130) control devices with users,

wherein, the system further comprises a plurality of route service devices (fig.1 shows plurality of service route 156 and 132) , each of the route service devices and each of the soft switch control device form a node of the system, and the nodes are networked in a layered form, each sub-node has at least a father node, and each father node has at least a sub-node, the soft switch control device is a node at the lowest layer, and the route service device should have a sub-node (see fig.1 shows all the subject matter to this point) , wherein:

the soft switch device reports changed route information information (Soft switches 130, 152 provide calling and called information to the servers, then the servers determine routing and move the call to its ultimate destination, e.g., they determine the routing instructions for called numbers see coln:10 lines 16-19)

to the route service device at a father node when its user adding or moving out, and initiates a route inquiry to the route service device at the father node when its user calls across domains (In

the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

broadcasting the changed route information to related node, performing inquiry after receiving the inquiry request, and returning inquiring result to the node initiating the inquiry In step 612, the media/proxy server sends the routing information back to the soft switch 130 informing it to route the call to a local Signal

Transfer Point (STP) 150 for SS7 routing. The soft switch 130 receives the instructions in step 614 and, in step 616, contacts its local media/proxy server 132 which has SS-7 connectivity. Next, in step 618, the media/proxy server 132 uses SS7 messaging to contact the local PSTN STP 150. In step 620, the STP 150 verifies that the requested call can be completed, e.g., the STP 150 checks to see if the called line is busy or if a no answer condition exists. If either of these conditions is detected by the STP 150, the STP 150 will inform the media/proxy server 132, and the calling party would hear a busy signal or a no answer condition indication under the direction of server 132 or softswitch 130 see con:20 lines 10-25).

Pershan does not disclose the route service device is for registering the reported information, performing adding, deleting and updating of route record in a route information database, Elliott et al from the same or similar endeavor teach (The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls see [1162]) . Thus it would have been obvious to one of ordinary skill in the art to implement the method of Elliott et al in the system of Pershan The method of Pershan can be implemented on any type of method the route service device is for registering the reported information, performing adding, deleting and updating of route record in a route information database which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 26 Pershan disclose the system, wherein the route service device comprises a route information database module, a route registration module, a route broadcast module and a route inquiry module, (Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module see coln:9 lines 1-2 and coln:10 lines 1-6)

wherein the route information database module is for storing a route record of a user, inputting the route record of the user, and providing an interface for accessing the route record of the user;

wherein the route registration module is for receiving a route information reported or forwarded by the route broadcast module, looking up a record of a user to be registered from the route information database, and registering the route record of the user to the route information database according to the reported route information and content of the user record;

wherein the route broadcast module is for receiving a broadcasted route information(step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server 156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to. See coln:16 lines 21-33)

; and

wherein the route inquiry module is for receiving or sending an inquiry request, looking up a record of a user to be inquired from the route information database, returning an inquiring result to a node requesting the inquiry upon finding a route of the user (the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy

server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200 see coln:19 lines 63-67 and coln :20 lines 1-4),

upon determining that there is no user or upon receiving an inquiring result provided by other nodes, otherwise, continuing an inquiry to the node in the route record, and if there is no route record, then continuing an inquiry to its father node (the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33)

Also note that Elliott teach and when a route information of a user reflects a change between a local node and its father node, or between the local node and both the father node and a designated brother node, broadcasting the route information of the user reflecting the change to its father node or both to the father node and the designated brother node.

Elliott et al from the same or similar endeavor teach (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This

registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882].

Regarding claim 27 Pershan disclose a route service device to be used in a next generation network, comprising:

a route information database module, a route registration module, a route broadcast module, and a route inquiry module(Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module see coln:9 lines 1-2 and coln:10 lines 1-6)

wherein the route information database module is for storing a route record of a user, inputting the route record of the user, and providing an interface for accessing the route record of the user;

wherein the route registration module is for receiving a route information reported or forwarded by the route broadcast module, looking up a record of a user to be registered from the route information database, and registering the route record of the user to the route information database according to the reported route information and content of the user record;

wherein the route broadcast module is for receiving a broadcasted route information (step 338, soft switch 152 receives the call and uses one of a plurality of techniques to identify routing instructions, e.g., an IP address. Then in step 340 the soft switch 152 transmits a query to server

156, i.e., the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to. See coln:16 lines 21-33)

; and

wherein the route inquiry module is for receiving or sending an inquiry request, looking up the a record of a user to be inquired from the route information database, returning an inquiring result to a node requesting the inquiry upon finding a route of the user(the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy server 132 seeking routing instructions for called number 301-774-5200 see coln:19 lines 63-67 and coln :20 lines 1-4)

, upon determining that there is no user or upon receiving an inquiring result provided by other nodes, otherwise, continuing an inquiry to the node in the route record, and if there is no route record, then continuing an inquiry to its father node(the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in

step 346 the soft switch 152 forwards the IP address to first media/proxy server 132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33)

Pershan dose not disclose, and when a route information of a user reflects a change between a local node and its father node, broadcasting the route information of the user reflecting the change to its father node. Elliott et al from the same or similar endeavor teach (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882]. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Elliott et al in the system of Pershan .The method of Pershan can be implemented on any type of method when a route information of a user reflects a change between a local node and its father node, broadcasting the route information of the user reflecting the change to its father node which is taught by Elliott with a motivation to in order to provide efficient transmission for voice and data traffic over a data network.

Regarding claim 28 Note that Pershan disclose the route service device, wherein the route registration module comprises:

a report information receiving unit, for receiving route information reported by a soft switch control device (Fig. 1 shows soft switch 130), or forwarded by the route broadcast module;

a registration access unit, for looking up the route record of the user in the route information database according to the information of the user to be registered in the reported information (Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module see coln:9 lines 1-2 and coln:10 lines 1-6) and;

a register judgment unit(the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57).

Also note that Elliott teach for establishing a new record if there is no route record of the user when the operation type corresponds to the user moving in, updating the record in the database in conformity with preset condition if the route record information of the user is different from the reported information, otherwise, not performing operation; deleting or updating the route record of the user if the operation type of the report information corresponds to user moving out

and the user node in the user record is same to the node in the reported information (The egress soft switch can similarly generate and forward call event blocks to the same or another RNECP for inclusion in the call event record. In one embodiment, all the call event blocks for the call record for a given call are sent to one RNECP which maintains a copy throughout the call (i.e. even if interim copies are transmitted for storage). In one embodiment, the call event record is removed from the RNECP upon completion of the call to free up space for additional calls see [1162]) .

Regarding claim 29 note that Pershan disclose the route service device, wherein the route broadcast module comprises:

a broadcast information receiving unit, for receiving the route information broadcasted by other nodes, forwarding the information to the route registration module(Soft switches 130 include routing information and other control information associated with providing (VOIP) service, e.g., telephone service, to VOIP service customers, e.g., customers represented by VOIP telephone devices 106, 154. Depending on the implementation, the control and/or routing information and function may be implemented in the soft switch using one or more devices such as a trunk call agent 136 and a line call agent 138 that inherent database ,registration ,route broadcast and query module see coln:9 lines 1-2 and coln:10 lines 1-6)

a broadcast judgment unit, for judging whether the a route information of the user to be registered reflects a change between its node and its father node, if yes, handing over the route information of the user to the route information broadcast unit(the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a

LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 lines 50-57)

; and

a route information broadcast unit, for broadcasting the changed route information to the father node (In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

Regarding claim 30 note that Pershan et al disclose the route service device , wherein the route inquiry module comprises:

an inquiry interface unit (IP gateway switch 122 of fig.1)

for receiving an inquiring request from other nodes or sending an inquiry request to other nodes, and returning the inquiring result of the route inquiry module to the node requesting the inquiry or forwarding the inquiring result received from other nodes (The IP gateway switch 122 couples the PSTN 102 to the VOIP network 104 and servers to interface between the PSTN

and IP networks by performing any necessary signaling, packetization, and protocol conversions.IP gateway switch functionality can be incorporated into switches which also provide complete PSTN functionality. Such multiprotocol telephone switches may include links to both the PSTN 102 and VOIP network 104 see coln:9 lines 2-10)

an inquiry access unit, for looking up in the route information database according to the characteristic information of the user to be looked up in the inquiry request, and reporting the inquiring result to an inquiry judgment unit; and

an inquiry judgment unit, (the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57)

for judging whether the inquiring result is that the user route is obtained or the user does not exist according to a looking up result, or it is necessary to send the inquiry request to related node, and to indicate the inquiry interface unit to perform corresponding operation (the FIG. 6 example begins in step 602 with the calling party dialing the called party's telephone number, e.g., 301-774-5200 into the IP telephone device 106. In step 604, the IP call which is received by the media/proxy server 132 and is routed to soft switch 130 and In step 606 the call is received at soft switch 130. Next, in step 608, the soft switch 130 sends a query to media/proxy

server 132 seeking routing instructions for called number 301-774-5200 see coln:19 lines 63-67 and coln :20 lines 1-4).

Regarding claim 31 note that Elliott et al teach the route service device of, wherein when the route information of the user reflects a change between local node and a designated brother node, the route broadcast module broadcasts the route information reflecting the change to the designated brother node (Diagram 542 illustrates intercommunications between access server 232a, soft switch 204 and SS7 gateway 208. Access server 232a communicates 544 with soft switch 418. Soft switch accepts IPDC messages from access servers from interaction with the servers. This communication extends 544 the soft switch command and control which registers soft switch 204 with SS7 gateways 232a. This registration uses 546 interaction between the soft switch and SS7 gateway 424. SS7 gateway 424 communicates 548 with the soft switch 418 see [0882].

Regarding claim 32.note that Elliott et al teach the route service device, wherein the operation types of the route record have two kinds: addition and deletion (Elliott et al:Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA

and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed see [0035]).

Also Pershan disclose inquiry judgment unit makes judgment according to the looking up result in the route information database by the following logic:

if the looking up result is that there is no record of the user to be looked up, for a node that is at the highest layer, determining that the user does not exist, for a node that is not at the highest layer (Pershan: the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57, continuing an inquiry; and

if the looking up result is that there is record of user to be looked up, when the user node in the route record is a soft switch control device, obtaining the user route, when the user node is not a soft switch device , continuing an inquiry to the user node in the record (the soft switch 152 transmits a query to server 156, i.e. the server responsible for servicing calls to user device 154. Next, in step 342 the server 156 receives the query and determines the IP address that correlates with the called number. In step 344 the determined IP address is transmitted to the soft switch 152. Then in step 346 the soft switch 152 forwards the IP address to first media/proxy server

132. In step 350, the call is completed to end user device 154 to which the called party indicated calls were to be forwarded to see coln: 16 lines 24-33)

Regarding claim 27 note that Pershan disclose modified by Elliott et al teach the route service device of, wherein the operation types of the route record have three kinds: addition, move-out and account-cancel (Elliott et al Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service. For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed see [0035]).

, the inquiry judgment unit makes judgment according to the looking up result in the route information database (Pershan : the ISCP 128 and SCP included therein, can obtain VOIP telephone service subscriber information and use that information in making PSTN call routing/completion decisions see coln:11 lines 1-5 also The SCP accesses a LNP database that includes information associating ported telephone numbers to Location Routing Numbers (LRNs). Each LRN normally corresponds to a telephone switch, e.g., a competitor's switch, which is responsible for servicing one or more ported calls. Accordingly, the LRN is the

number that identifies the SSP to which the called telephone number is ported see coln:3 LINES 50-57)

by the following logic:

if the looking up result is that there is no record of user to be looked up, for a node that is at the highest layer, determining that the user does not exist; for a node that is not at the highest layer, continuing an inquiry (Pershan:In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

, or returning father node to the inquiry node as a next jump inquiry node, so as to instruct the inquiry node to perform route inquiry with the next jump inquiry node;

if the looking up result is that there is record of user to be looked up in the looking up result, discerning the operation type in the record again (Elliott Soft switch 418 communicates 538 with SS7 GW proxy 424 accepting signaling messages from SS7 gateways 208. Soft switch 418 communicates 540 with SS7 GW proxy 424 sending signaling messages to SS7 gateway 208. In sending signaling messages, soft switch 204 uses 542 command and control registration of the soft switch 204 with SS7 gateway 208 see [0881]):

when the operation type is addition, for the user node in record being a soft switch control

device, obtaining the user route; for the user node being the route service device, continuing an inquiry to the user node, or returning the user node to the inquiry node as a next jump inquiry node, so as to instruct the inquiry node to perform route inquiry with the next jump inquiry node (Pershan:In the FIG. 6 example a calling party 106 whose number was ported from the PSTN to the VOIP domain originates a call from the VOIP network 104. The exemplary call is directed to a called party 108 located in the PSTN 102. As discussed above, from a billing perspective, it may be desirable to have the call billed as if it originated from the Centrex SSP 120 used to service the originating (calling party) telephone number before it was ported to the VOIP network 104. In this manner, changes in customer billing procedures as perceived by the customer, which may be important for business clients, can be minimized despite a telephone number being ported to the VOIP network see coln:19 lines 37-49)

when the operation type is move-out, for a node that is at the highest layer, determining that the user does not exist, for a node that is not at the highest layer, continuing an inquiry to its father node, or returning the father node to the inquiry node as a next jump inquiry node, so as to instruct the inquiry node to perform the route inquiry with the next jump inquiry node; and

when the operation type is account-cancel (Elliott: Verification can result in the need to enforce a restriction, such as a class of service (COS) restriction (COSR). In this example, the soft switch site can verify that the account code is valid, but that it requires that an intrastate COSR should be enforced. This means that the call is required to be an intrastate call to be valid. The class of service restriction logic can be performed within the soft switch site using, for example, pre-loaded local access and transport areas (LATAs) and state tables. The soft switch would then allow the call to proceed if the class of service requested matches the authorized class of service.

For example, if the LATA and state tables show that the LATA of the originating party and the LATA of the terminating party are in the same state, then the call can be allowed to proceed see [0035]) determining that the user does not exist.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 20040172658 A1) ;(Rakib et al) discloses Home network for ordering and delivery of video on demand, telephone and other digital devices.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHALID ABDALLA whose telephone number i(571)270-7526. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. A./

Examiner, Art Unit 2419

/DANG T TON/
Supervisory Patent Examiner, Art Unit 2419/D. T. T./
Supervisory Patent Examiner, Art Unit 2419